

MISCELLANEOUS NOTES

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10. INVASION OF WHITE STORKS (*CICONIA CICONIA*) IN KACHCH (KUTCH), GUJARAT

Spotting White Storks numbering from 2 to 20 along jheels or heavily watered agricultural fields or gram fields is a common feature. Besides flamingos and Demoiselle cranes, a flock of over 25 of other big birds is rarely seen in the Western part of India.

I, however, had two occasions to see large congregations of White Storks. On 22-01-1984, when I was organizing a census of cranes in the Kachch (Kutch) area, at Vandhai pond in Bhachau Taluka of Kachch district, I suddenly came across a large flock of White Storks. This was disturbed by my sudden appearance. All the birds flew up and spiralled upward above the pond to a great height for the next 15 minutes. The exact number then counted was 148.

The second occasion came more recently. On 02-12-1984 when I had planned to visit the famous Dhand area located near the desert

border of the Great Rann of Kachch with Shri H. L. Lalka, Dy. Conservator of Forests. Because of the late rains the entire Dhand was still marshy and supported a heavy growth of reeds and rushes 60 to 90 cm tall.

This somewhat semi dried area with jheels has become an ideal site for White Storks and Demoiselle cranes. It is perhaps one of the biggest congregating grounds of White Storks and to my astonishment the number counted by us at one time in a limited area which was visible to us was 904. From the flocks flying overhead the approximate number of White Storks in the Dhand would probably be over 3000. The number of Demoiselle crane in this could not have been less than 10000.

I do not know whether such a large congregation of White Storks has been observed at one site anywhere in India.

CONSERVATOR OF FORESTS,  
KACHCH CIRCLE,  
BHUJ,  
February 10, 1985.

A. A. VAIDYA

11. RISE IN GLOBAL MEAN SEA LEVEL HAS IT AFFECTED THE FLAMINGO BREEDING GROUNDS ?

Ornithologists have been baffled as to why the Flamingos have not been breeding since

1977 in their traditional breeding grounds in the Great Rann of Kachch at Sindalbet in

Flamingo City (Thakker 1982). Satellite photos have pointed to unfavourable conditions for breeding during the usual season September to April. These photos indicated deep sea during in December/January and absence of shallow water in April (Thakker 1982). The Flamingos have been breeding in the Great Rann of Kachch since 1893. Why did they find the place unsuitable only in 1977? The explanation most probably lies in the steady rise in sea level that has taken place since the rise of industrial civilization founded on the running of machines on fossil fuels and the socio-political changes which are causing a steady destruction of Tropical forests.

The fossil fuels release carbon dioxide into the atmosphere, on burning. Similarly the destruction of forests results in release of carbon dioxide into the atmosphere. The application of chemical fertilisers to fields and the dumping of sewage into the sea and rivers are among the causes for release of gases similar in effect on the atmosphere as carbon dioxide namely effecting a heating of the earth causing the polar ice caps to melt. This in turn raises the mean sea level. This causes inundation of low lying lands disturbing the balance of life. The Kachch area is an example of a wetland area which might have been affected by this rise in sea level. The surest indication of this could as well be the displacement of the breeding grounds forcibly from Flamingo City in Sindalbet to Thol lake Sanctuary 600 km away in Ahmedabad. The article offers an explanation to this effect.

#### *Data on sea level rise*

Sea level on a global basis has been rising since the turn of the century. Between 1890 and 1980 the global mean sea level has risen by about 16.5 cm. (Etkins and Epstein 1982).

The nesting season in the Great Rann of

Kachch depends upon the requisite shallowness of water on the nesting ground September/October, February to April. The Nest: A truncated conical mound of hard sun-baked mud 15.24 to 30.48 cm in height with a slight pan-like depression at top is built in hundreds close to one another in a compact, expansive 'city'.

The sea threatened to submerge an appreciable number of nests of the Flamingos and hence they fled the Sindalbet area.

We reach the above result by following a line of argument similar to the one below :

From the nest height data the height varies between 15.24 cm to 30.48 cm. The reason for this variation in height could be to adjust to the upper and lower levels of the tides around the mean sea level, so that the nests are not inundated. Thus so long as the mean sea level did not appreciably change with time the above nest 'design' levels sufficed to provide a set of secure homes for breeding during the few months the Flamingos made Sindalbet area their land. So also the various other creatures in the food chain remained more or less satisfactory in the area. As soon as a critical global mean sea level was reached this ecological balance was upset and the changes in the tidal levels around this new critical mean sea level no longer remained below submergence of a critical number of nests. Thakker (1982) notes that the Great Rann of Kachch breeding ground is approximately one meter above mean sea level. Thus, assuming that this is the 1977 sea level, the variation of tidal changes around this level, could no longer sustain the ecological conditions that prevailed prior to this year. This could be inferred from the following concept that could have been built into the Flamingos' minds over a period of time: If the nests were built with a minimum height of 15.24 cm, then the tidal

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effects could be overcome and the young could be nurtured in safety.

We know that the Flamingos have been breeding in Sindalbet since 1893. And we also know that the rise in the global mean sea level till 1977 has been about 16.5 cm. Thus the mean sea level rose sufficiently to violate the 15.24 cm minimum nest height principle so as to inundate an appreciable number of nests to invoke a fast response from the Flamingo community. And indeed it appears that the response has been an emergency one. But we can only tell after a detailed ecological study of two areas: the Gulf of Kachch ecosystem

TYPE III, 36-E TATA HOUSING SOCIETY,  
MAHUL ROAD,  
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December 17, 1984.

and the Thol lake sanctuary area in Ahmedabad.

### CONCLUSION

The Flamingo breeding ground change could be an indicator of the type of ecological changes that could have been really man made. The rapid build up of greenhouse gases in the atmosphere could be compressing a 125000 year climatic change in just 120 years. Man must himself bear the burden of backtracking from this way of life as soon as possible — now: willingly.

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## 12. COURTSHIP BEHAVIOUR OF PAINTED SNIPE IN TIRUCHIRAPALLI, TAMILNADU

I observed two instances of Courtship behaviour in the painted snipe (*Rostratula benghalensis*) one in December 1981 and another in November 1982. On both the instances there were two males and a female each. On the first instance the female displayed to her mate (presumably) at 5.50 p.m. flapping up the wings. They both stood back to back a few feet apart and the hen cooed: oonkun, oonkun, oonkun, puffing up her nape. As the male turned to move toward her another male appeared and, coming within a few feet in front of her, hopped three steps forward. At this stage the first male ran towards him and

pecked at him at which the latter flew a few feet away. But as the pair were again getting ready for courtship, the second male reappeared before the female only to be caught up in a real fight with the first male to whom he lost again. This continued into dusk and darkness. On the second instance, a second male followed a pair at a distance of about 25 feet at 6.15 a.m. The male that was close to the female, apparently already paired, took a few steps, his neck stretched and beak held forward, towards the second male. The intended attack was aborted as the intruding male increased the distance between them. All this